

REMARKS

The present application was filed on June 6, 2002 with claims 1-27. With the present response, Applicant amends claims 12, 16, 20, and 24. Claims 1-27 are pending.

Claims 12, 16, 20, and 24 have been amended to remove “and packet data services” from the preamble. Additionally, claim 24 has been amended as follows: “a channel allocation unit in said wireless network that is responsive to a ~~receipt~~ generation of said message”, in accordance with text from page 15, line 13 to page 16, line 29 and FIG. 3B of Applicant’s specification. These amendments were not made for patentability purposes.

In the outstanding Office Action, the Examiner (1) rejected claims 1-10, 12-14, 16-18, 20-22, and 24-26 under 35 U.S.C. §103(a) as being unpatentable over Moslemie et al., WO98/57509 (hereinafter, Moslemie) in view of Kim et al., U.S. Patent No. 6,768,728 (hereinafter, Kim); and (2) rejected claims 11, 15, 19, 23, and 27 under 35 U.S.C. §103(a) as being unpatentable over Moslemie and Kim in view of Jarvinen et al., U.S. Patent No. 5,960,389.

Regarding the rejections in item (1) above, Applicant respectfully traverses these rejections. The Examiner admits that Moslemie fails to teach whether the current traffic channel must be released by the mobile station and signaling from the network to the mobile station to release the channel. The Examiner then asserts that Kim teaches this text in step 423 and 425 of FIG. 4 of Kim. See the paragraph spanning pages 2-3 and the final paragraph of §2 at page 4 of the outstanding Office Action.

What Kim states is the following:

However, if transmission of the packet data is not continued until the value of the T_{active} timer expires, ***the mobile station perceives this*** in step 421, ***and generates a control message*** for requesting release of the reverse packet traffic channel through the dedicated MAC channel DMCH ***and sends the generated control message*** through the physical channel, in step 423. **In response to the control message, the base station generates a**

responsive control message for release of the reverse packet traffic channel via the dedicated MAC channel DMCH and sends the generated control message via the physical channel, in step 425. Subsequently, the base station and the mobile station release the reverse traffic channel and transition to the control hold state, in step 427, preparing for the next state.

Kim at col. 9, lines 49-56 (emphases added: italics for operations of the mobile station and underlining for operations of the base station). In Kim, the mobile station perceives that a transmission of packet data is being discontinued (see Kim at col. 9, lines 42-45) and generates a control message in response. The base station then responds to the control message through another message for releasing the reverse packet traffic channel.

Regarding independent claim 1, claim 1 contains the features of “signalling, between a mobile station to a network, that one of the mobile station or the network is temporarily ceasing transmission of frames”, “at the network and in response to the signalling that one of the mobile station or the network is temporarily ceasing transmission of frames, determining if a current traffic channel that is assigned to the mobile station can be retained by the mobile station, or whether the current traffic channel must be released by the mobile station”, and “if it is determined that the current traffic channel must be released by the mobile station, signalling from the network to the mobile station to release the channel”. Note that “determining ... whether the current traffic channel must be released by the mobile station” is performed *at the network* in independent claim 1. This is in direct contrast to Kim, in which it is the mobile station that perceives that a transmission of packet data is being discontinued (see Kim at col. 9, lines 42-45) and that generates a control message in response. The base station in Kim simply responds to the control message through another message for releasing the reverse packet traffic channel.

Because the Examiner admits that Moslemie does not teach determining “whether the current traffic channel must be released by the mobile station” and because Kim does not disclose that “determining ... whether the current traffic channel must be released by the mobile station” is performed *at the network*, neither Moslemie nor Kim teach this feature. Applicant therefore respectfully submits that the combination of Moslemie and Kim does not

teach this feature and that independent claim 1 is patentable over the combination of Moslemie and Kim.

Moreover, there appears to be no motivation to combine Moslemie and Kim and the Examiner appears to be making an impermissible hindsight analysis. In Moslemie, the downlink (i.e., forward) traffic channel for a circuit-switched call is allocated for a separate packet-mode data transmission when the downlink portion of a circuit-switched call is in a DTX state. The allocation is a GPRS allocation (see Moslemie at page 5, lines 9-17; page 14, lines 18-22; and FIG. 3). Meanwhile, in Kim, FIG. 4 of Kim is directed to a procedure for allocating and releasing an uplink (i.e., reverse) packet traffic channel by using a dedicated control channel, while the system transitions from a control hold state to an active state and back to a control hold state (see Kim at col. 9, lines 25-29). Thus, Moslemie and Kim are directed to two different channels, downlink and uplink packet channels, respectively. Moreover, Kim does not mention, does not imply, and is not directed to a DTX state for a circuit-switched call. Meanwhile, Moslemie is directed to using the DTX state of a circuit-switched call. In other words, Moslemie allocates the downlink voice traffic channel for use in a GPRS packet-based traffic channel based on a DTX state for a downlink voice traffic channel. Kim does state the following:

That is, the gain controllers 527 and 528 perform a DTX (Discontinuous Transmission) mode of operation, in which the path of the dedicated control channel is formed according to the gain control signals when there is a frame message to transmit, and the path of the dedicated control channel is blocked when there is no frame message to transmit.

Kim at col. 13, lines 6-12. See also Kim at col. 15, line 53 to col. 16, line 19. However, the DTX mode of operation in Kim is for the dedicated control channel of Kim, and not for a DTX state for a circuit-switched call as in Moslemie. There does not appear to be any motivation for one skilled in the art to combine the system of Moslemie, directed to allocating a downlink traffic channel for a circuit-switched call for a separate packet-mode data transmission, and the system of Kim, directed to a procedure for allocating and releasing an uplink packet traffic channel by using a dedicated control channel.

Further, independent claim 1 contains the feature of “at the network ... determining if a current traffic channel that is assigned to the mobile station can be retained by the mobile station, or whether the current traffic channel must be released by the mobile station”. The Examiner asserts that “determining if a current traffic channel that is assigned to the mobile station can be retained by the mobile station” is taught by Moslemie and that “whether the current traffic channel must be released by the mobile station” is taught by Kim, but as described above, there is no motivation for one skilled in the art to combine Moslemie and Kim. Therefore, the Examiner is simply performing a hindsight analysis and selecting from references those items that appear to meet features of independent claim 1, without much regard for whether there would be motivation to combine references.

Further, there is no teaching or implication in Moslemie, Kim, or the combination thereof that when a temporary cessation in transmission of frames is to occur, certain steps are taken in response to the cessation to determine whether a mobile station will retain an assigned traffic channel or whether the traffic channel must be released by the mobile station and to signal the mobile station to release the assigned traffic channel when the traffic channel must be released by the mobile station, as generally recited in independent claim 1. For instance, Moslemie specifically states that the radio unit 30 simply starts to send GPRS information (to a mobile station supporting GPRS -- not the mobile station supporting GSM) when the DTX_DETECTED line is set. See page 14, lines 7-17 of Moslemie. In other words, in Moslemie no *determination* is made as to whether a mobile station will retain an assigned traffic channel or whether the traffic channel must be released by the mobile station. Similarly, in Kim, the packet traffic channel is requested to be released by the mobile station when the mobile station is done transmitting packet data, and there is no explicit determination that the packet traffic channel must be released by the mobile station.

In independent claim 1, the determination of whether the current traffic channel must be released by the mobile station is performed in response to signalling that one of the mobile station or the network is temporarily ceasing transmission of frame. By contrast, in Kim the mobile station makes a determination as to whether all packet data has

been transmitted or not, and the determination in Kim is not performed in response to any type of signalling.

Thus, neither Moslemie nor Kim nor the combination thereof teach or imply that when a temporary cessation in transmission of frames is to occur, certain steps are taken in response to the cessation to determine whether a mobile station will retain an assigned traffic channel or whether the traffic channel must be released by the mobile station and to signal the mobile station to release the assigned traffic channel when the traffic channel must be released by the mobile station, as generally recited in independent claim 1.

Because the combination of features of independent claim 1 are not disclosed or implied by the combination of Moslemie and Kim, because there is no motivation to combine Moslemie and Kim, and because an impermissible hindsight analysis is being used, Applicant respectfully submits that independent claim 1 is patentable over the combination of Moslemie and Kim. Because independent claim 1 is patentable over Moslemie, dependent claims 2-10 are also patentable over the combination of Moslemie and Kim for at least the reasons given above with respect to independent claim 1. Applicant respectfully requests that the §103(a) rejection to claims 1-10 be withdrawn.

Regarding independent claim 12, independent claim 12 comprises features of “detecting, in a mobile station, a cessation of user speech”, “in response, signalling from the mobile station to a network that the mobile station is entering a Discontinuous Transmission state”, “at the network and in response to the signalling that the mobile station is entering the Discontinuous Transmission state, based at least on a consideration of a current network requirement for uplink voice traffic channels, determining if a current uplink voice traffic channel that is assigned to the mobile station can be retained by the mobile station, or whether the current uplink voice traffic channel must be released by the mobile station”, and “only if it is determined that the current uplink voice traffic channel must be released by the mobile station, sending a channel release message from the network to the mobile station.”

First, it should be noted that portions of independent claim 12 are directed to an uplink voice traffic channel. Moslemie specifically states that “[t]he method of the invention allows much more effective use of radio network capacity in the downlink direction.” See page 7, lines 14-15 of Moslemie. There is no disclosure or implication in Moslemie that Moslemie’s invention can be used in the uplink direction. Furthermore, Kim is not directed to a voice traffic channel. For instance, FIG. 4 of Kim is directed to “requesting and allocating the reverse packet traffic channel” (col. 9, lines 25-26 of Kim) and Kim specifically defines a voice traffic channel as being different than a packet traffic channel (see Table 1, col. 4, lines 26-44 of Kim). Therefore, Kim does not disclose “determining ... whether the current uplink voice traffic channel must be released by the mobile station” as recited in independent claim 12.

Therefore, neither Moslemie nor Kim discloses “determining if a current uplink voice traffic channel that is assigned to the mobile station can be retained by the mobile station, or whether the current uplink voice traffic channel must be released by the mobile station”. Because neither Moslemie nor Kim discloses this recited feature, the combination of Moslemie and Kim do not disclose the recited feature.

Second, claim 12 contains the feature of “at the network and in response to the signalling that the mobile station is entering the Discontinuous Transmission state, based at least on a consideration of a current network requirement for uplink voice traffic channels, determining if a current uplink voice traffic channel that is assigned to the mobile station can be retained by the mobile station, or whether the current uplink voice traffic channel must be released by the mobile station”. There is no disclosure or implication in Moslemie or Kim or the combination thereof that ***based at least on a consideration of a current network requirement for uplink voice traffic channels*** a determination is made as to whether to retain or release an uplink voice traffic channel assigned to a mobile station. For instance, Moslemie specifically states that the radio unit 30 simply starts to send GPRS information (to a mobile station supporting GPRS -- not the mobile station supporting GSM) when the DTX_DETECTED line is set. See page 14, lines 7-17 of Moslemie. In Kim, the mobile

station makes a determination as to whether all packet data has been transmitted or not, and this determination is used to cause a channel release request by the mobile station (see FIG. 4, steps 421 and 423 of Kim). Neither Moslemie nor Kim (nor their combination) considers a current network requirement for uplink traffic channels.

Therefore, Applicant respectfully submits that independent claim 12 is patentable over the combination of Moslemie and Kim. Because independent claim 12 is patentable, dependent claims 13 and 14 are also patentable for at least the reasons given for independent claim 12, and Applicant requests the §103(a) rejection to claims 12-14 be withdrawn.

With regard to independent claim 16, this claim comprises features of “detecting, in a component of the network, a cessation of speech”, “in response, signalling from the mobile station to a network that the mobile station is entering a Discontinuous Transmission state”, “at the network and in response to the signalling that the mobile station is entering the Discontinuous Transmission state, based at least on a consideration of a current network requirement for downlink voice traffic channels, determining if a current downlink voice traffic channel that is assigned to the mobile station can be retained by the mobile station, or whether the current downlink voice traffic channel must be released by the mobile station” and “only if it is determined that the current downlink voice traffic channel must be released by the mobile station, sending a channel release message from the network to the mobile station”.

The combination of Moslemie and Kim does not disclose or imply all features of claim 16. In particular, Moslemie does not ever determine if a current downlink voice traffic channel assigned to the mobile station can be retained by the mobile station, and Kim is not directed to voice traffic channels. Therefore the combination of Moslemie and Kim do not disclose “determining if a current downlink voice traffic channel that is assigned to the mobile station can be retained by the mobile station, or whether the current downlink voice traffic channel must be released by the mobile station” as recited in independent claim 16. Furthermore, there is no disclosure or implication in Moslemie or Kim or the combination

thereof that ***based at least on a consideration of a current network requirement for downlink voice traffic channels*** a determination is made as to whether to retain or release a downlink voice traffic channel assigned to a mobile station. Moslemie simply allocates a downlink voice traffic channel for GPRS packet use when the downlink voice traffic channel is in a DTX state, and Kim is not directed to voice traffic channels.

Additionally, in claim 16 the determination “if a current downlink voice traffic channel that is assigned to the mobile station can be retained by the mobile station, or whether the current downlink voice traffic channel must be released by the mobile station” is performed in response to a situation where user speech has ceased. This is opposite to what is performed in blocks 55 and 56 disclosed by Moslemie (e.g., in response to user speech *starting* -- block 55 -- block 56 is performed). Kim is not directed to the cessation of user speech and therefore the combination of Moslemie and Kim does not disclose the unique features in independent claim 16.

Therefore, Applicant respectfully submits that independent claim 16 is patentable over Moslemie. Because independent claim 16 is patentable, dependent claims 17 and 18 are also patentable for at least the reasons given for independent claim 16, and Applicant requests the §103(a) rejection to claims 16-18 be withdrawn.

With regard to independent claim 20, this claim has features similar to the features in independent claim 12. Therefore, the arguments with respect to independent claim 12 are applicable to independent claim 20. In particular, certain features of independent claim 20 specifically concern the uplink direction for voice traffic. By contrast, there is no disclosure or implication in Moslemie or Kim or their combination that these systems can be used regarding voice traffic in the uplink direction. Additionally, there is no disclosure in Moslemie of the features of the channel allocation unit and the wireless network transmitter of independent claim 20. The arguments given above with respect to independent claim 12 are equally valid with respect to the channel allocation unit and the wireless network transmitter of independent claim 20. Moreover, the channel allocation unit of independent claim 20 is responsive to a message that a mobile station is entering a Discontinuous

Transmission state (e.g., which occurs when a cessation of user speech occurs), which is opposite to what is performed in blocks 55 and 56 disclosed by Moslemie (e.g., in response to user speech *starting* -- block 55 -- block 56 is performed). Kim is not directed toward the cessation of user speech and therefore the combination of Moslemie and Kim does not disclose the features of independent claim 20.

Applicant respectfully submits that independent claim 20 is patentable over Moslemie. Because independent claim 20 is patentable, its dependent claims 21 and 22 are also patentable for at least the reasons given for independent claim 20. Applicant respectfully requests the §103(a) rejection to claims 20-22 be withdrawn.

With regard to independent claim 24, this claim has features similar to the features in independent claim 16. Therefore, the arguments with respect to independent claim 16 are applicable to independent claim 24. In particular, Moslemie does not ever determine if a current downlink voice traffic channel assigned to the mobile station can be retained by the mobile station and Kim is not directed to voice traffic channels. Therefore the combination of Moslemie and Kim do not disclose “determining if a current downlink voice traffic channel that is assigned to the mobile station can be retained by the mobile station, or whether the current downlink voice traffic channel must be released by the mobile station” as recited in independent claim 24. Furthermore, there is no disclosure or implication in Moslemie or Kim or the combination thereof that ***based at least on a consideration of a current network requirement for downlink voice traffic channels*** a determination is made as to whether to retain or release an uplink voice traffic channel assigned to a mobile station.

Additionally, in claim 24 the determination “if a current downlink voice traffic channel that is assigned to the mobile station can be retained by the mobile station, or whether the current downlink voice traffic channel must be released by the mobile station” is performed in response to a situation where user speech has ceased. This is opposite to what is performed in blocks 55 and 56 disclosed by Moslemie (e.g., in response to user speech *starting* -- block 55 -- block 56 is performed). Kim is not directed to the cessation of user

speech and therefore the combination of Moslemie and Kim do not disclose the unique features in independent claim 24.

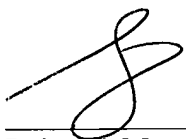
Applicant respectfully submits that independent claim 24 is patentable over Moslemie. Because independent claim 24 is patentable, its dependent claims 25 and 26 are also patentable for at least the reasons given with respect to independent claim 24. Applicant respectfully requests the §103(a) rejection to claims 24-26 be withdrawn.

Regarding the §103(a) rejection of dependent claims 11, 15, 19, 23, and 27, these claims depend from independent claims 1, 12, 16, 20, and 24, respectively. Therefore, Applicant respectfully submits that dependent claims 11, 15, 19, 23, and 27 are patentable for at least the arguments given above with respect to their independent claims and respectfully request the §103(a) rejection of claims 11, 15, 19, 23, and 27 be withdrawn.

Based on the foregoing arguments, it should be clear that claims 1-27 are thus allowable over the prior art cited by the Examiner, and the Examiner is respectfully requested to reconsider and remove the rejections.

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Respectfully submitted:



Robert J. Mauri
Reg. No.: 41,180

Aug 10, 2005
Date

Customer No.: 29683

HARRINGTON & SMITH, LLP
4 Research Drive
Shelton, CT 06484-6212

Telephone: (203)925-9400
Facsimile: (203)944-0245
email: rmauri@hspatent.com

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